

**SECTION 10 13 00
DIRECTORIES**

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies exterior medical center monument signs.

1.2 RELATED WORK

- A. Section 10 14 00, SIGNAGE.

1.3 MANUFACTURER'S QUALIFICATIONS

- A. Sign manufacturer shall provide evidence that they regularly and presently manufactures signs similar to those specified in this section as one of their principal products.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 00, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- B. Samples: Sign panels and frames, with letters and symbols, each type. Submit 2 sets. One set of samples will be retained by COTR, other returned to Contractor.
1. Color samples of each color, 150 mm x 150 mm (6 inches x 6 inches. Show anticipated range of color and texture.
 2. Sample of typeface, arrow and symbols in a typical full size layout.
- C. Manufacturer's Literature:
1. Showing the methods and procedures proposed for the concealed anchorage of the sign system to each surface type.
 2. Manufacturer's printed specifications, anchorage details, installation and maintenance instructions.
- D. Shop Drawings:
1. Sign location plan, showing location, type and total number of signs required.
 2. Scaled for manufacture and fabrication of sign types. Identify materials, show joints, welds, anchorage, accessory items, mounting and finishes.
- E. Full size layout patterns for dimensional letters.

1.5 DELIVERY AND STORAGE

- A. Deliver materials to job in manufacturer's original sealed containers with brand name marked thereon. Protect materials from damage.
- B. Package to prevent damage or deterioration during shipment, handling, storage and installation. Maintain protective covering in place and in good repair until removal is necessary.
- C. Deliver directories only when the site and mounting services are ready for installation work to proceed.

D. Store products in dry condition inside enclosed facilities.

1.6 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
B209-07.....Aluminum and Aluminum-Alloy Sheet and Plate
B221-08.....Aluminum and Aluminum-Alloy Extruded Bars, Rods,
Wire, Shapes, and tubes.
- C. Federal Specifications (Fed Spec):
MIL-PRF-8184F.....Plastic Sheet, Acrylic, Modified.
MIL-P-46144C.....Plastic Sheet, Polycarbonate

1.7 MINIMUM SIGN REQUIREMENTS

- A. Directional/Informational Signs:
1. Type Styles: As shown. Characters shall have a width-to-height ratio between 3:5 and 1:1. Characters shall have a stroke width-to-height ratio of between 1:5 and 1:10.
 2. Character Height: As shown.
 3. Mounting Location and Height: As shown.

1.8 COLORS AND FINISHES:

- A. Match existing.
- B. Provide the VA with material and color samples for initial verification purposes.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Signs of type, size and design shown on the drawings and as specified.
- B. Signs complete with lettering, framing and related components for a complete installation.
- C. Provide graphics items as completed units produced by a single manufacturer, including necessary mounting accessories, fittings and fastenings.
- D. Do not scale drawings for dimensions. Contractor to verify and be responsible for all dimensions and conditions shown by these drawings. COTR to be notified of any discrepancy in drawing, in field directions or conditions, and/or of any changes required for all such construction details.
- E. The Sign Contractor, by commencing work of this section, assumes overall responsibility, as part of his warranty of work, to assure that assemblies, components and parts shown or required within the work of the section, comply with the Contract Documents. The Contractor shall

further warrant: That all components, specified or required to satisfactorily complete the installation are compatible with each other and with conditions of installations.

2.2 PRODUCTS

- A. Acceptable manufacturer's: The following manufacturers of monument signs or manufacturers of products having the same properties and performance are acceptable:
 - 1. Office Sign Store: www.officesignstore.com
Outdoor signs and Architectural signs
- B. Aluminum:
 - 1. Sheet and Plate: ASTM B209.
 - 2. Extrusions and Tubing: ASTM B221.
- C. Cast Acrylic Sheet: MIL-PRF-8184F; Type II, class 1, Water white non-glare optically clear. Matt finish water white clear acrylic shall not be acceptable.
- D. Polycarbonate: MIL-P-46144C; Type I, class 1.
- E. Vinyl: 0.1 mm thick machine cut, having a pressure sensitive adhesive and integral colors.

2.3 SIGN STANDARDS

- A. Typography:
 - 1. Type Style: Helvetica Medium and Helvetica Medium Condensed. Initial caps to match existing.
 - 2. Letter spacing: Match existing.
 - 3. All text, and symbols to be provided in size, colors, typefaces and letter spacing to match existing. Text shall be a true, clean, accurate reproduction of typeface(s) shown. Text shown in drawings are for layout purposes only; final text for signs shall be reviewed and approved by the VA prior to sign fabrication.
- B. Project Colors and Finishes: Match Existing. Provide the VA with material and color samples for final approval.

2.4 SIGN TYPES

- A. General:
 - 1. The exterior sign system shall be comprised of sign types families that are identified by a letter and number which identify a particular group of signs. An additional number identifies a specific type of sign within that family.
 - 2. EN designation indicates exterior non-illuminated sign.
- B. Text and Graphics:
 - 1. Non-illuminated Signs: Surface applied reflective white opaque vinyl graphics.

C. Non-Illuminated Monument Sign - Sign Type EI-01:

1. Sign shall be an illuminated sign cabinet mounted on a concrete base with a reveal between the base and the cabinet.
2. Sign shall be constructed of an aluminum extrusion system including the following integral features: water relief channel for proper drainage, internal flanges for attachment of additional structural supports and mounting to base and a frame retainer, maximum 25 mm (1 inch) face dimension, to allow for sign face removal.
3. Sign to be installed with a cast-in-place "J" bolt type mounting to concrete base.

2.5 FINISHES

- A. Provide Fluoropolymer powder coating on all exposed and semi-exposed metal sign surfaces to meet or exceed the 10-year weathering exposure performance requirements of American Architectural Manufacturers Association Standard AAMA 2605-11. Sol-ar Fluoropolymer or approval equal.
- B. Acceptable manufacturers of high performance Fluoropolymer powder coatings include, but are not limited to, the following:
 1. Protech Chemicals Ltd. www.protechpowder.com Sol-ar Fluoropolymer or approved equal.
- C. Powder coating shall meet or exceed the following physical properties performance criteria.

Property	Performance (AAMA 2605-11)
Minimum Initial Dry Film Thickness (3 to 4 mils specified)	≥ 30 microns (1.2 mil) for 80% ≥ 25 microns (1.0 mil) or 85% of specified thickness
Specular Gloss (ASTM D523)	Within +/- 5 units of Manufactures recommended values
Outdoor Weathering Exposure Time	10 years, South Florida
Chalking Resistance after Weather Exposure (ASTM D4214 Method A)	10 years, Chalk ≤8
Color Retention after Weather Exposure	10 year fade: Delta E ≤ 5
Gloss Retention after Weathering	10 years ≥ 50 % Retention
Erosion Resistance after Weathering	10 years ≤ 10% loss
Impact Resistance (No Weathering Exposure)	No film removal at initial test
Humidity Resistance (ASTM D2247) Film Erosion	No blistering 4000 Hr. at 100°F 100% Humidity

Film Erosion	$\leq 10\%$
Abrasion Resistance (ASTM D968)	Abrasion Coefficient ≥ 40
Salt Spray Corrosion Resistance	4000 Hr. ≤ 8 Blisters 4000 Hr. ≥ 7 Scribe
Chemical Resistance -Muriatic Acid -Mortar -Detergent -Window Cleaner -Nitric Acid	No loss of adhesion, blistering or visually apparent change
Sealant Compatibility	Sealant shall meet AAMA800 and have no effect on coating
Boiling Water Film Adhesion	No loss of adhesion after 20 minutes in 212°F water
Color Uniformity	No variation outside limits of approved color sample
Dry Film Hardness (ASTM D3363)	No Rupture
Dry & Wet Film Adhesion (ASTM D3359)	Meets Requirements
T-Bend for Coat Flexibility	2-T minimum flexibility without pick-off at bend area
Warranty on Physical Properties Performance	10 years

2.6 FABRICATION

- A. Design components to allow for expansion and contraction for a minimum material temperature range of 56 °C (100 °F), without causing buckling, excessive opening of joints or over stressing of adhesives, welds and fasteners.
- B. Form work to required shapes and sizes, with true curve lines and angles. Provide necessary rebates, lugs and brackets for assembly of units. Use concealed fasteners whenever and wherever possible.
- C. Shop fabricate so far as practicable. Joints fastened flush to conceal reinforcement, or welded where thickness or section permits.
- D. Contact surfaces of connected members be true. Assembled so joints will be tight and practically unnoticeable, without use of filling compound.
- E. Signs shall have fine, even texture and be flat and sound. Lines and miters sharp, arises unbroken, profiles accurate and ornament true to

pattern. Plane surfaces be smooth flat and without oil-canning, free of rack and twist. Maximum variation from plane of surface plus or minus 0.3 mm (0.015 inches). Restore texture to filed or cut areas.

- F. Level or straighten wrought work. Members shall have sharp lines and angles and smooth surfaces.
- G. Extruded members to be free from extrusion marks. Square turns and corners sharp, curves true.
- H. Drill holes for bolts and screws. Conceal fastenings where possible. Exposed ends and edges mill smooth, with corners slightly rounded. Form joints exposed to weather to exclude water.
- I. Finish hollow signs with matching material on all faces, tops, bottoms and ends. Edge joints tightly mitered to give appearance of solid material.
- J. All painted surfaces properly primed. Finish coating of paint to have complete coverage with no light or thin applications allowing substrate or primer to show. Finished surface smooth, free of scratches, gouges, drips, bubbles, thickness variations, foreign matter and other imperfections.
- K. Movable parts, including hardware, are to be cleaned and adjusted to operate as designed without binding or deformation of members. Doors and covers centered in opening or frame. All contact surfaces fit tight and even without forcing or warping components.
- L. Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for re-assembly and coordinated installation.
- M. No signs shall be manufactured until final sign message review has been completed by the COTR & forwarded to contractor.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Protect products against damage during field handling and installation. Protect adjacent existing and newly placed construction, landscaping and finishes as necessary to prevent damage during installation. Paint and touch up any exposed fasteners and connecting hardware to match color and finish of surrounding surface.
- B. Mount signs in proper alignment, level and plumb according to the sign location plan and the dimensions given on elevation and sign location drawings. Where otherwise not dimensioned, signs shall be installed where best suited to provide a consistent appearance throughout the project. When exact position, angle, height or location is in doubt, contact COTR for clarification.

- C. Contractor shall be responsible for all signs that are damaged, lost or stolen while materials are on the job site and up until the completion and final acceptance of the job.
- D. Remove or correct signs or installation work COTR determines as unsafe or as an unsafe condition.
- E. At completion of sign installation, clean exposed sign surfaces. Clean and repair any adjoining surfaces and landscaping that became soiled or damaged as a result of installation of signs.
- F. Locate signs as shown on the Sign Location Plans.
- G. Contractor will be responsible for verifying that there are no utility lines that will be affected by installation of signs. Any damage during installation of signs to utilities will be the sole responsibility of the Contractor to correct and repair.
- H. Furnish inserts and anchoring devices which must be set in concrete or other material for installation of signs. Provide setting drawings, templates, instructions and directions for installation of anchorage devices which may involve other trades.

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